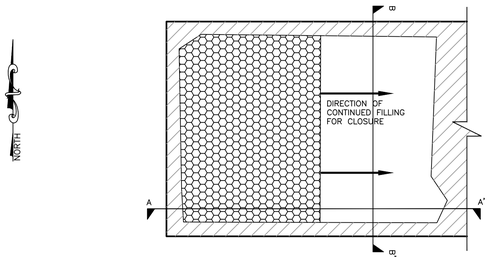
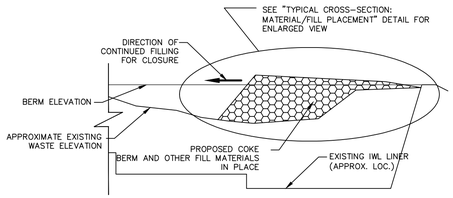
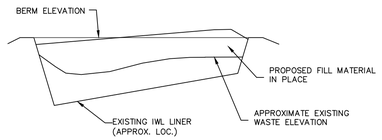


PLAN VIEW
SCALE 1"=200'



CROSS SECTION A-A'
N.T.S.

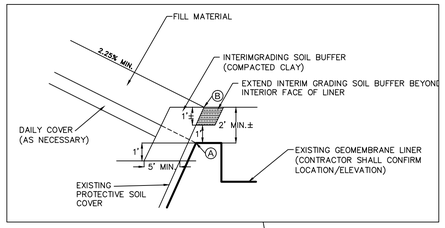


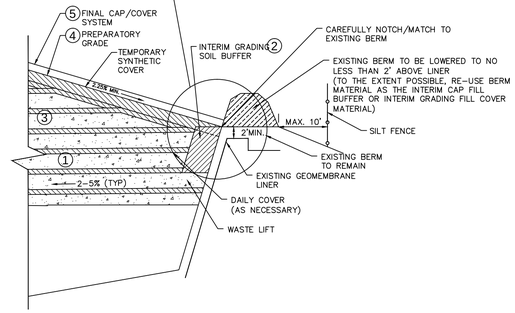
CROSS SECTION B-B'
N.T.S.

ANTICIPATED GENERAL IWL FILLING PROCEDURE:

1. CONFIRM AND SURVEY ALIGNMENT AND DEPTH PROFILE OF GEOMEMBRANE LINER AT PERIMETER OF IWL.
2. LEVEL ACCESS ROAD FROM PLANT TO IWL PAD AREA. PREMCOR AND ITS CONTRACTOR SHALL IDENTIFY DESIRED ACCESS ROAD(S) INTO IWL AND PRESENT FOR MOTIVA REVIEW AND APPROVAL.
3. AS NECESSARY, CONSTRUCT/PLACE GRAVEL OVER SEPARATION GEOTEXTILE FOR INTERNAL STAGING AREA. ALLOW AREA FOR VEHICLE/TRUCK TURN-AROUND AND MULTIPLE VEHICLE STAGING.
4. TRUCKS WILL ENTER IWL AND BACK UP TO GRADING FACE. AFTER DUMPING, TRUCKS WILL LEAVE IWL AND THE LOAD WILL BE SPREAD. PLACEMENT OF FILL SHALL ALLOW SPACE FOR MOVEMENT OF EARTHMOVING AND HAUL TRUCKS SIMULTANEOUSLY.
5. PLACE WASTE IN MAXIMUM TWO (2) FOOT THICK LIFTS AND THEN COMPACT IMMEDIATELY. AT THE INTERFACE WITH THE PERIMETER BERM, THE COKE BERM AND OTHER FILL MATERIAL CANNOT BE PLACED HIGHER THAN 1 FOOT BELOW THE ELEVATION OF THE LINER AND ALWAYS GRADED TO DRAIN TOWARDS IWL INTERIOR AREA.
6. DAILY COVER MUST BE APPLIED IN MINIMUM SIX (6) INCH THICK LAYERS OR AS NEEDED TO CONTROL DUST. ACCEPTABLE DAILY COVER MATERIALS FOR THE WASTE INCLUDE SOIL AND UNCLASSIFIED GRANULAR MATERIAL (E.G., ROCK MATERIAL INCLUDING CRUSHED STONE, SAND, GRAVEL, AND STONE NO LARGER THAN 3-INCHES IN DIAMETER AS WELL AS SLAG FROM THE GASIFIER UNIT) AS APPROVED BY PREMCOR AND MOTIVA.

GENERAL FILLING PROCEDURE DETAIL
SCALE: AS SHOWN





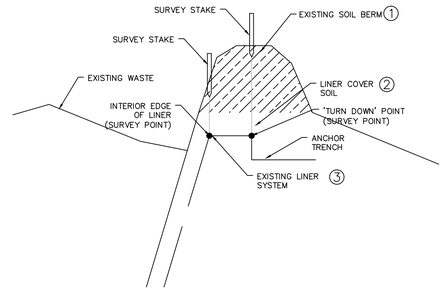
FILLING SEQUENCE:

1. FILL VOLUME BELOW PERIMETER BERM ELEVATION IN MAXIMUM 2-FOOT THICK LIFTS AND COMPACT IMMEDIATELY. APPLY DAILY COVER IN MINIMUM 6-INCH THICK LAYERS OR AS NEEDED TO CONTROL DUST. SLOPE LIFTS TO PROMOTE POSITIVE DRAINAGE TOWARDS THE IWL INTERIOR.
2. CONSTRUCT A BUFFER OF INTERIM COVER SOIL EXTENDING FROM ONE FOOT BELOW THE TOP OF LINER ELEVATION TO THE TOP OF THE PERIMETER BERM TO FORM CLEAN BOUNDARY BETWEEN WASTE AND IWL PERIMETER BERM SOIL. NO WASTE SHALL BE PLACED AGAINST THE IWL INTERIOR SIDE SLOPE WITHIN 1 FOOT OF POINT (A).
3. PLACE WASTE/DAILY COVER TO REACH INTERIM GRADES SHOWN ON SHEETS C-16 AND C-17 AND IMMEDIATELY PLACE TEMPORARY SYNTHETIC COVER WHILE STILL PROVIDING FOR MAJORITY OF DRAINAGE INTO THE TEMPORARY STORMWATER BASIN.
4. AFTER REMOVAL OF TEMPORARY SYNTHETIC COVER, PLACE FILL MATERIALS TO REACH PREPARATORY GRADES SHOWN ON SHEETS C-21 AND C-22 TO PROMOTE DRAINAGE OF SURFACE WATER AWAY FROM THE IWL AND INTO THE PERIMETER DRAINAGE CHANNELS.
5. PLACE FINAL COVER SOIL TO ENSURE A MAJORITY OF SURFACE WATER DRAINAGE TO THE PERIMETER DRAINAGE CHANNELS. THE COVER SHALL BE SLOPED MINIMUM 2.25 PERCENT UP FROM POINT (B).

TYPICAL CROSS-SECTION
MATERIAL/FILL PLACEMENT DETAIL
N.T.S.

GENERAL CONSTRUCTION NOTES:

1. TO THE EXTENT PRACTICABLE, WASTE PLACEMENT AND FILLING PROCEDURES SHOWN ON THIS PLAN COMPLY WITH THE PROCEDURES LISTED IN THE DNREC IWL OPERATING PERMIT, DATED FEBRUARY 26, 2004 AND THE "OPERATIONS PLAN FOR INTERIM GRADING WITH COKE BERM MATERIAL," DATED SEPTEMBER 12, 2005.
2. TERMINATION AT PERIMETER BERM TAKEN FROM "THE CLOSURE AND POST-CLOSURE PLAN, INDUSTRIAL WASTE LANDFILL, MOTIVA ENTERPRISES LLC," DATED OCTOBER 9, 2000.
3. THE LINER LOCATION AND ELEVATIONS SHOWN IN THIS DRAWING SET ARE BASED ON TEST PIT LOCATIONS SURVEYED IN JUNE 2005 BY VANDEMARK & LYNCH, INC. THE CONTRACTOR SHALL CONFIRM THE LOCATION AND ELEVATION OF THE LINER PRIOR TO PLACING SOIL AND ADJUST THE PROPOSED THE GRADING, AS NECESSARY, TO MEET THE DESIGN INTENT AND PERFORMANCE REQUIREMENTS REFLECTED IN THE DETAILS SHOWN ON THIS SHEET. REFER TO THE 'LINER LOCATION DETAIL' ON THIS SHEET.
4. FILLING OF THE IWL SHALL BE DONE IN A MANNER THAT WILL MAXIMIZE THE VOLUME OF STORMWATER RUN-OFF FROM THE TEMPORARY SURFACE. A TEMPORARY SYNTHETIC COVER SHALL BE PLACED TO PROTECT ENTIRE INTERIM SURFACE OF THE LANDFILL.



LINER LOCATION DETAIL
N.T.S.

LINER LOCATING PROCEDURE:

1. USING THE BACKHOE CAREFULLY REMOVE THE UPPER 3 FEET OF SOIL FROM THE CONTAINMENT BERM AROUND THE IWL. STOP IMMEDIATELY IF THE LINER IS EXPOSED.
2. DIG TEST HOLE APPROXIMATELY 8-12 INCHES WITH HAND SHOVEL; REMOVE THIS SOIL WITH BACKHOE ONCE HANDWORK CONFIRMS NO LINER WITHIN THE SHOVELED DEPTH.
3. REPEAT STEP '2' UNTIL LINER IS EXCAVATED BY HANDWORK.
4. ONCE THE LINER HAS BEEN EXPOSED, CAREFULLY COMPLETE ADDITIONAL HANDWORK TO EXPOSE THE INTERIOR EDGE OF THE LINER AND, IF POSSIBLE, THE TURN DOWN POINT WHERE THE LINER ENTERS THE ANCHOR TRENCH.
5. MEASURE THE VERTICAL DEPTH BETWEEN THE ADJACENT, UNDISTURBED TOP OF GRADE AND EXPOSED LINER: INSTALL SURVEY STAKES (ON THE ADJACENT TOP OF BERM) TO MARK THE LOCATIONS OF THE INTERIOR EDGE AND TURN DOWN POINT OF THE LINER. INDICATE DEPTH TO LINER ON STAKE.
6. CAREFULLY BACKFILL EXCAVATION.

REVISIONS

NO.	BY	CHKD	DATE	DESCRIPTION
3				
2				
1				
1	SMS	CWK	10/30/07	REVISED TO ADDRESS DNREC COMMENTS
0	SMS	JAC	02/02/06	SUBMITTED WITH CLOSURE PLAN FOR DNREC REVIEW

WARNINGS

0 0.5 1.0
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

IF THE SEAL ON THIS PLAN IS NOT RED OR RAISED THEN THIS PLAN MAY HAVE BEEN ALTERED AND RECOPIED. ORIGINAL SEALS ARE STAMPED IN RED INK OR EMBOSSED WITH A CRIMPING SEAL.

PLAN CERTIFIED BY:
URS
335 COMMERCE DRIVE, STE 300
FORT WASHINGTON, PA 19034
TEL: (215) 367-2500
FAX: (215) 367-1000
07/01/2009
(Signature) (Date)
PETER J. DUDKO
PROFESSIONAL ENGINEER DE LIC. NO. 9538

PLANS ISSUED BY:
URS
335 COMMERCE DRIVE, STE 300
FORT WASHINGTON, PA 19034
TEL: (215) 367-2500
FAX: (215) 367-1000

		DATE
DESIGNED BY:	ETS	04/05/05
DRAWN BY:	SMS	02/02/06
CHECKED BY:	PJD	10/30/07
APPROVED BY:	JAC	10/30/07
CLIENT APPROVED BY:		

DELAWARE CITY REFINERY
INDUSTRIAL WASTE LANDFILL CLOSURE

CONSTRUCTION DETAILS (SHEET 2 OF 3)

JOB NO.	SCALE:
20240421	N.T.S.
ORIGINAL DATE: 04/05/05	LAST REVISED: 10/30/07
REV 1	
DRAWING NO. C-61	